EPA HQ Vermiculite Attic Insulation (VAI) "Program"

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Asbestos Site Evaluation, Communicaiton and Cleanup

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Presentation Summary

- VAI “History”
- EPA’s VAI Homeowner Information Strategy Overview
- How do I know whether I have Libby Vermiculite?
- Preliminary Decisions in the Method developed in Covington, KY
- VAI Program Future



VAI "History"

- Libby, MT health problems
- Libby vermiculite in products may be a problem
- Large amounts of vermiculite in attic insulation
- Estimates of millions of homes with VAI
- NPCD Vermont Study of 6 houses and simulation chamber studies
- EPA/ATSDR Pamphlet on VAI



EPA's VAI Homeowner Information Strategy

- Pamphlet - Do not disturb (completed)
- *How do I know whether I have Libby VAI?*
- What is the potential hazard from my VAI?
- What happens if I have to disturb my VAI?
- What are my options for VAI removal/disposal?



How do I know whether I have Libby Vermiculite?

- Qualitative identification (Covington Meeting)
- Semi-quantitative method evaluation (weight percent of solids, not asbestos)
- Method verification and validation
- Preparation of standards/reference materials



Preliminary Decisions in the Method developed in Covington, KY

US EPA Office of Research and Development

DRAFT
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Method for Sampling and Analysis of Fibrous Amphibole in Vermiculite Attic Insulation

Prepared for:

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Developed from input received at an interagency meeting on
"Analytical Method for Bulk Analysis of Vermiculite"
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Covington, Kentucky
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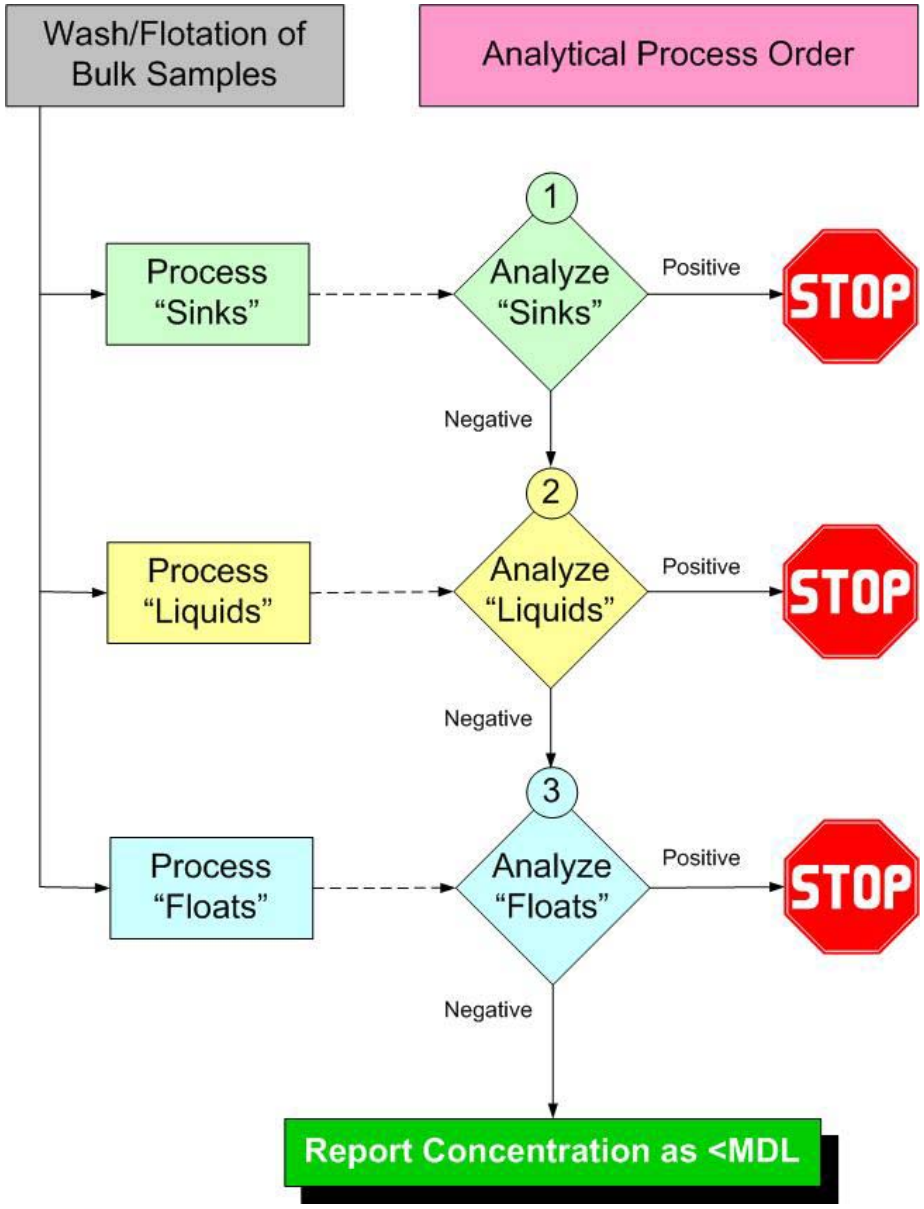
Wash/Flotation of Bulk Samples
Analytical Process Order
1
Process "Sinks"
Analyze "Sinks"
Positive
STOP
Negative
2
Process "Liquids"
Analyze "Liquids"
Positive
STOP
Negative
3
Process "Floats"
Analyze "Floats"
Positive
STOP
Negative
Report Concentration as <MDL

Analyze “Sinks”

- Dry the solids (“sinks”) which sank in the flotation process
- Dry the sinks and examine for amphibole using a stereo optical microscope
- Manually separate amphibole pieces from other pieces in the sinks
- Weigh amphibole pieces to determine weight percent of amphibole in VAI



Analyze "Sinks" (cont.)

- Select an amphibole piece and tease out individual fibers for PLM analysis
- Prepare a slide for PLM examination and add high dispersion liquid having a refractive index of 1.630
- If there are no Libby amphibole sinks (based on the refractive index), analyze the water



Analyze “Liquids”

- Homogenize the water and remove an aliquot for drying and analysis
- Prepare the dried suspended solids (fines) for SEM/TEM analysis
- Analyze the fines for Libby amphibole
- It there are no Libby amphibole particles in the fines, analyze the floats



Analyze “Floats”

- Add the floats back to water and agitate/ sonicate?
- Repeat the analytical process starting at the first VAI flotation step and examine and new sinks and second decantate of water.



VAI Program Future –

What is the potential hazard from my VAI?

- Start from a semi-quantitative surrogate method
- Compare the surrogate method results with air sampling results
- Method verification and validation
- Preparation of standards/reference materials

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